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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Osamu Fujii

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03/16/2009

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EXAMINER

CHARLES, MARCUS

ART UNIT

PAPER NUMBER

3656

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,213	<b>Applicant(s)</b> FUJII ET AL.	
	<b>Examiner</b> Marcus Charles	<b>Art Unit</b> 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-13 and 17-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13 and 17-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

This action is responsive to the amendment filed 12-04-2008, which has been entered.

Claims 9-13 and 17-27 are currently pending.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9, 20, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE (4334195) in view of JP (2001-50264). DE (4334195) discloses the claimed invention, for example the rolling element (1) in the groove of the inner and outer raceways (2/3), the raceway grooves (note labeled) are in contact with the outside diameter rolling elements (1), which are arranged cross-wise so that the central axes of rotation of the rolling elements are skewed alternately. As shown in fig. 1, the clearance between the inner and outer rings is substantially equal to the axial length of the rolling elements which allows the rolling element during assembly to be inserted through the opening and into the grooves of the raceway to be rotatable in the grooves of the raceways. In addition, DE (4334195) discloses each inner ring and outer ring (2/3) is monolithically formed but fails to disclose at least one raceway groove includes two grooves. JP (2001-50264) discloses a bearing having a pair of bearing rings comprising an outer race (1) and an inner race (2) each having a raceway groove, wherein at least one of the grooves includes two grooves (2a, 2b). Therefore, it would have been obvious to

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one of ordinary skill in the art at the time of the invention to modify the at least one of the raceway so that it includes two grooves in view of JP (2001-50264) in order to reduce the area of surface contacts thereby reducing friction and heat during operation.

In claim 26, it is apparent that the rolling bearing of DE (4334195) is assembled in a state that the rolling elements is inserted and rotated by using the groove provided in the part of the groove and a preload applied. It should be noted axial thickness of the rolling element is smaller than the bearing gap between the raceway face of the pair of rings when assembled allowing the rollers (1) to be inserted and rotated.

3. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE (4334195) in view of JP (2001-50264) as applied to claim 9 above, and further in view of Ashton (2,628,137). DE (4334195) discloses the claimed invention, except for a retainer having inclined axial pocket faces that are inclined alternately towards opposite sides in the axial direction with a face opposed to the axial pocket being opened. Ashton discloses a bearing having a retainer (9) with axial pocket faces that are inclined alternately toward mutually opposite sides in the axial direction and having an open opposed face. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of DE (4334195) so as to include the retainer in view of Ashton in order to prevent the rolling bearing from slipping of and to increase the life span of the bearing.

4. Claims 13, 21 & 24-25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE (4334195) in view of JP (2001-50264) and of WO (90/13167). DE (4334195) in view of JP (2001-50264) discloses the claimed invention above in

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paragraph 2, except for the motor as claimed. WO (90/13167) discloses a drive motor to comprising a rotor (46), a stator (16) disposed in the motor and a pair of bearing rings (28, 30). Therefore, it would be obvious to one of ordinary skill in the art time of the invention to use the bearing of DE (4334195) on the motor of WO (90/13167) in order to reduce friction and increase the efficient of the motor.

In claim 27, it is apparent that the rolling bearing of DE (4334195) is assembled in a state that the rolling elements is inserted and rotated by using the groove provided in the part of the groove and a preload applied. It should be noted axial thickness of the rolling element is smaller than the bearing gap between the raceway face of the pair of rings when assembled allowing the rollers (1) to be inserted and rotated.

5. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE (4334195) in view of JP (2001-50264) and WO (90/13167) as applied to claim 13 and further in view of Ashton. DE (4334195) discloses the claimed invention except for a retainer having inclined axial pocket faces that are inclined alternately towards opposite sides in the axial direction. Ashton discloses a bearing having a retainer (9) with axial pocket faces that are inclined alternately toward mutually opposite sides in the axial direction. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the device of DE (4334195) so as to include a retainer in view of Ashton in order to prevent the rolling bearing from slipping of and to increase the life span of the bearing.

***Citation***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note the prior art cited in attached PTO Form 892.

***Response to Arguments***

7. Applicant's arguments with respect to claims 9-13 and 17-27 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus Charles whose telephone number is (571) 272-

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7101. The examiner can normally be reached on Monday-Thursday 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ridley Richard can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Marcus Charles*  
/Marcus Charles/  
Primary Examiner, Art Unit 3656